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     FILE 'REGISTRY' ENTERED AT 13:32:02 ON 10 SEP 2010
                  EXP LAMINARTETRAOSE/CN
                  EXP LAMINARITETRAOSE/CN
L1             1 S E3
L2             1 S E6
                  EXP LAMINARIPENTAOSE/CN
L3             1 S E3 OR E7

     FILE 'HCAPLUS' ENTERED AT 13:33:51 ON 10 SEP 2010
L4             8 S L2/THU OR L3/THU
L5            22 S L2/PREP OR L3/PREP
L6            18 S L5 AND (PY<2004 OR AY<2004 OR PRY<2004)
L7             3 S L6 AND L4
L8            15 S L6 NOT L7
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=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

FILE 'REGISTRY' ENTERED AT 13:32:02 ON 10 SEP 2010
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:    9 SEP 2010  HIGHEST RN 1240463-09-5
DICTIONARY FILE UPDATES:   9 SEP 2010  HIGHEST RN 1240463-09-5

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TSCA INFORMATION NOW CURRENT THROUGH June 26, 2010.

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> exp laminartetraose/cn
E1            1     LAMINARITRIOSE/CN
E2            1     LAMINARITRIOSE, UNDECAACETATE/CN
E3            0 --> LAMINARTETRAOSE/CN
E4            1     LAMINASE/CN
E5            1     LAMINATED GLASS/CN
E6            1     LAMINATED OXIDE GLASS/CN
E7            1     LAMINET (MUS MUSCULUS DOMESTICUS GENE LMNT1 ISOFORM 1A)/CN
E8            1     LAMINET (MUS MUSCULUS DOMESTICUS GENE LMNT1 ISOFORM 1B)/CN
E9            1     LAMINET (MUS MUSCULUS DOMESTICUS GENE LMNT1 ISOFORM 1C)/CN
E10           1     LAMINET (MUS MUSCULUS DOMESTICUS GENE LMNT1 ISOFORM 1D)/CN
E11           1     LAMINET (MUS MUSCULUS DOMESTICUS GENE LMNT1 ISOFORM 1E)/CN
E12           1     LAMINET (MUS MUSCULUS DOMESTICUS GENE LMNT1 ISOFORM 1F)/CN

=> exp laminaritetraose/cn
E1            1     LAMINARIPENTOSE/CN
E2            1     LAMINARITETRAONIC ACID/CN
E3            1 --> LAMINARITETRAOSE/CN
E4            1     LAMINARITETRAOSE ALDITOL/CN
E5            1     LAMINARITETRAOSE, TETRADECAACETATE/CN
E6            1     LAMINARITETROSE/CN
E7            1     LAMINARITOL/CN
E8            1     LAMINARITRIOSE/CN
E9            1     LAMINARITRIOSE, UNDECAACETATE/CN
E10           1     LAMINASE/CN
E11           1     LAMINATED GLASS/CN
E12           1     LAMINATED OXIDE GLASS/CN

=> s e3
L1            1 LAMINARITETRAOSE/CN
```

```
=> d l1

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2010 ACS on STN
RN   26212-72-6  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   D-Glucose, O-β-D-glucopyranosyl-(1→3)-O-β-D-
     glucopyranosyl-(1→3)-O-β-D-glucopyranosyl-(1→3)-  (CA
     INDEX NAME)
OTHER CA INDEX NAMES:
CN   Laminaritetraose (6CI, 7CI, 8CI)
OTHER NAMES:
CN   Laminara-tetraose
CN   Laminaritetrose
FS   STEREOSEARCH
MF   C24 H42 O21
CI   COM
LC   STN Files:   AGRICOLA, BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS,
       CSCHEM, TOXCENTER, USPATFULL
         (*File contains numerically searchable property data)

Absolute stereochemistry.
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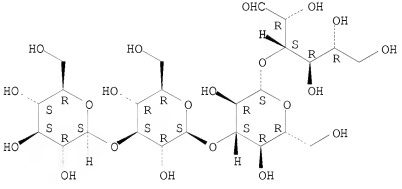

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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

              81 REFERENCES IN FILE CA (1907 TO DATE)
               4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
              82 REFERENCES IN FILE CAPLUS (1907 TO DATE)

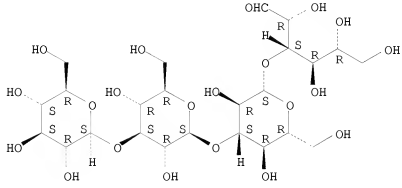

=> s e6
L2            1 LAMINARITETROSE/CN

=> d l2

L2   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2010 ACS on STN
RN   26212-72-6  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   D-Glucose, O-β-D-glucopyranosyl-(1→3)-O-β-D-
     glucopyranosyl-(1→3)-O-β-D-glucopyranosyl-(1→3)-  (CA
     INDEX NAME)
OTHER CA INDEX NAMES:
CN   Laminaritetraose (6CI, 7CI, 8CI)
```

OTHER NAMES:
CN  Laminara-tetraose
CN  Laminaritetrose
FS  STEREOSEARCH
MF  C24 H42 O21
CI  COM
LC  STN Files:  AGRICOLA, BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

81 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
82 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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=> exp laminaripentaose/cn
E1            1     LAMINARIOSE/CN
E2            1     LAMINARIPENTAHYDROLASE/CN
E3            1 --> LAMINARIPENTAOSE/CN
E4            1     LAMINARIPENTAOSE ALDITOL/CN
E5            1     LAMINARIPENTAOSE SULFATE/CN
E6            1     LAMINARIPENTAOSE, HEPTADECAACETATE, B-/CN
E7            1     LAMINARIPENTOSE/CN
E8            1     LAMINARITETRAONIC ACID/CN
E9            1     LAMINARITETRAOSE/CN
E10           1     LAMINARITETRAOSE ALDITOL/CN
E11           1     LAMINARITETRAOSE, TETRADECAACETATE/CN
E12           1     LAMINARITETROSE/CN

=> s e3 or e7
              1 LAMINARIPENTAOSE/CN
              1 LAMINARIPENTOSE/CN
L3            1 LAMINARIPENTAOSE/CN OR LAMINARIPENTOSE/CN

=> file hcaplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                              27.67      27.89
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FILE 'HCAPLUS' ENTERED AT 13:33:51 ON 10 SEP 2010
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)
```



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FILE COVERS 1907 - 10 Sep 2010  VOL 153 ISS 12
FILE LAST UPDATED: 9 Sep 2010  (20100909/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Jun 2010
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Jun 2010

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2010.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s l2/thu or l3/thu
            82 L2
       1289497 THU/RL
             6 L2/THU
               (L2 (L) THU/RL)
           100 L3
       1289497 THU/RL
             6 L3/THU
               (L3 (L) THU/RL)
L4           8 L2/THU OR L3/THU

=> d l4 1-8 ti abs bib

L4   ANSWER 1 OF 8  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Oligomeric compounds and excipients
AB   The present invention provides method of optimizing the efficacy and
     potency of antisense compds.  In certain embodiments, the invention
     provides assays useful for determining favorable oligonucleotide
characteristics
     and excipients for improved cellular uptake.
AN   2010:1002623  HCAPLUS <<LOGINID::20100910>>
TI   Oligomeric compounds and excipients
IN   Bennett, C. Frank; Geary, Richard S.; Swayze, Eric E.; Siwkowski, Andrew
     M.
PA   Isis Pharmaceuticals, Inc., USA
SO   PCT Int. Appl., 69pp.
     CODEN: PIXXD2
DT   Patent
LA   English
```

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2010091301 | A1 | 20100812 | WO 2010-US23383 | 20100205 |
| | W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW | | | | |
| | RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| PRAI | US 2009-150708P | P | 20090206 | | |

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Synthesis, immunological activities, and scavenging ability toward superoxide anion of (1 → 3)-β-D-pentaglucoside and its epoxyalkyl derivatives
AB Two epoxyalkyl (1→3)-β-D-pentaglucosides were synthesized via acetylation, glycosidation, oxidation, and deacetylation of (1→3)-β-D-pentaglucoside. The immunol. activities (superoxide anion production activity, phagocytic activity, and lymphocyte proliferation) and scavenging ability toward superoxide anion of (1→3)-β-D-pentaglucoside and its epoxyalkyl derivs. were compared. Superoxide anion released from human blood monocytes was measured by the reduction of ferricytochrome c. Phagocytosis by peritoneal macrophages was detected through a teal ingesting that measured the chicken red blood cells (CRBC). Lymphocyte proliferation was determined by the MTT method. The scavenging ability toward superoxide anions was evaluated by means of chemiluminescence (CL). The results showed that epoxyalkyl (1→3)-β-D-pentaglucosides had a little higher immunol. activity and scavenging ability toward superoxide anion than (1→3)-β-D-pentaglucoside, which indicated that the reducing end of the oligoglucosides was quite important for maximum biol. activity.
AN 2005:464987 HCAPLUS <<LOGINID::20100910>>
DN 143:90258
TI Synthesis, immunological activities, and scavenging ability toward superoxide anion of (1 → 3)-β-D-pentaglucoside and its epoxyalkyl derivatives
AU Huang, Gang-Liang; Liu, Man-Xi; Mei, Xin-Ya; Wang, Ying
CS Key Laboratory of Biomedical Photonics of Ministry of Education, Huazhong University of Science and Technology (East Campus), Wuhan, 430074, Peop. Rep. China
SO Bioorganic & Medicinal Chemistry (2005), 13(12), 3873-3877
CODEN: BMECEP; ISSN: 0968-0896
PB Elsevier Ltd.
DT Journal
LA English
OS CASREACT 143:90258
OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Therapeutical treatment with oligo-beta- (1,3) -glucans, drugs used in

said treatment

AB A therapeutical method comprising administration of a composition comprising an amount of oligo-β-(1,3)-glucan and a pharmaceutically acceptable carrier, to a human being or to a warm-blood animal suffering from a disease selected from the group consisting in a tumor, a cancer, a viral disease, a bacterial disease, a fungal disease, a disease of the immune system, an auto-immune disease or a disease related to a deficiency of immunostimulation, wherein the amount of oligo-β-(1,3)-glucan is effective to treat the disease.

AN 2005:259652 HCAPLUS <<LOGINID::20100910>>

DN 142:309889

TI Therapeutical treatment with oligo-beta- (1,3) -glucans, drugs used in said treatment

IN Yvin, Jean-Claude; Jamois, Frank; Vetvicka, Vaclav

PA Fr.

SO U.S. Pat. Appl. Publ., 20 pp.
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 20050065114 | A1 | 20050324 | US 2003-668665 | 20030923 |
| | WO 2005027936 | A2 | 20050331 | WO 2004-EP10995 | 20040916 |
| | WO 2005027936 | A3 | 20050728 | | |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | EP 1663258 | A2 | 20060607 | EP 2004-787077 | 20040916 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK | | | | |
| PRAI | US 2003-668665 | A | 20030923 | | |
| | WO 2004-EP10995 | W | 20040916 | | |

OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L4 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN

TI Characterisation of the Anticoagulant Properties of a Range of Structurally Diverse Sulfated Oligosaccharides

AB In this study, 17 sulfated oligosaccharides were assessed by the activated partial thromboplastin time (APTT) test for their anticoagulant activity and nine were found to exhibit significant activity. Chain length, monosaccharide makeup, and linkage all appear to be critical factors in determining anticoagulant activity, with the most active compds. being five- to sixfold less potent than unfractionated heparin (UFH). Phosphomannopentaose sulfate (PI-88), one of the most active sulfated oligosaccharides and a promising anticancer drug, was selected for further study. PI-88 gave a more linear APTT dose-response curve and displayed less patient-to-patient variation than UFH, with its activity being neutralized by protamine sulfate. However, PI-88 showed considerable species-to-species variation in its anticoagulant effect. It was found that PI-88 acted as an anticoagulant by enhancing the ability of heparin cofactor II (HCII) to inhibit thrombin, and did not act via antithrombin

III (AT-III) in either inhibiting Factor Xa or thrombin. PI-88 also mildly prolonged the prothrombin time (PT), while it had no platelet pro-aggregatory activity, nor did it demonstrate direct fibrinolytic activity. Thus, PI-88 represents a potential antithrombotic agent deserving further study.

AN 2001:651835 HCAPLUS <<LOGINID::20100910>>
DN 136:63816
TI Characterisation of the Anticoagulant Properties of a Range of Structurally Diverse Sulfated Oligosaccharides
AU Wall, D.; Douglas, S.; Ferro, V.; Cowden, W.; Parish, C.
CS Research and Development Unit, Australian Red Cross Blood Service-Victoria, Melbourne, Australia
SO Thrombosis Research (2001), 103(4), 325-335
CODEN: THBRAA; ISSN: 0049-3848
PB Elsevier Science Inc.
DT Journal
LA English
OSC.G 24 THERE ARE 24 CAPLUS RECORDS THAT CITE THIS RECORD (24 CITINGS)
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Oligosaccharides, a process for preparation thereof and pharmaceutical combination containing the same compounds
AB This invention relates to the oligosaccharides with enhancing immune and antitumor activity. The described oligosaccharides have a main chain consisting of 3-14 sugar residues and side chains consisting of 0-4 sugar residues. The sugar residues are either the same or different. The described sugar residues on the main chain are linked through 1→3β or 1→4β linkage. The described side chains are linked with the main chain through 1→6β or 1→6α linkage. The described terminal group is hydroxyl or C1-12 alkoxyl group. This invention also involves the preparation of the described oligosaccharides, in the process 1,2:5,6-di-O-isopropylidene glucose is used as the starting material and the glycosyl acceptor and acylated sugars are used as the glycosyl donors for the preparation of said oligosaccharide. In addition, the pharmaceutical composition of the described oligosaccharides and their use as enhancing immune and antitumor agents, and as health maintaining products are involved.
AN 2001:453081 HCAPLUS <<LOGINID::20100910>>
DN 135:33006
TI Oligosaccharides, a process for preparation thereof and pharmaceutical combination containing the same compounds
IN Kong, Fanzuo; Ning, Jun
PA Research Center for Eco-Environmental Sciences, Academia Sinica, Peop. Rep. China
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA Chinese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2001044263 | A1 | 20010621 | WO 2000-CN224 | 20000807 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI | | | | |
| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, | | | | |

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             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     CN 1303857          A     20010718    CN 1999-126224          19991216
     CN 1129600          C     20031203
     CN 1306003          A     20010801    CN 2000-100376          20000119
     CN 1159327          C     20040728
PRAI CN 1999-126224      A     19991216
     CN 2000-100376      A     20000119
OSC.G   3     THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
RE.CNT  4     THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 6 OF 8  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   β(1-3)-Glucan diagnostic assays
AB   Methods of isolating β(1-3)-glucan or β(1-3)-glucan-containing
     organisms in a sample, or of detecting the presence of β(1-3)-glucan
     or β(1-3)-glucan-containing organisms in a sample, utilizing binding
     agents for β(1-3)-glucan, such as LacCer, GalCer,
     globotriaosylceramide and asialoganglioside-GM1, are described.  Methods
     of diagnosing fungal infection, by detecting β(1-3)-glucan or
     β(1-3)-glucan-containing organisms, are also described.  Antibodies and
     kits useful in the methods are also disclosed.
AN   1999:405173  HCAPLUS <<LOGINID::20100910>>
DN   131:43592
TI   β(1-3)-Glucan diagnostic assays
IN   Wakshull, Eric M.; Mackin, William M.; Zimmerman, Janet W.; Fisette,
     Leslie W.
PA   Alpha-Beta Technology, Inc., USA
SO   PCT Int. Appl., 56 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 6
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    -------------------     --------
PI   WO 9931510          A1     19990624    WO 1998-US24014         19981112
         W:  AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
             DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE,
             KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW,
             MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
             TT, UA, UG, US, UZ, VN, YU, ZW
         RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
             FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
             CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     US 6084092          A      20000704    US 1997-990125          19971212
     CA 2314342          A1     19990624    CA 1998-2314342         19981112
     AU 9913967          A      19990705    AU 1999-13967           19981112
     AU 740158           B2     20011101
     EP 1038180          A1     20000927    EP 1998-957794          19981112
          R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, FI
     JP 2002508518       T      20020319    JP 2000-539356          19981112
PRAI US 1997-990125      A      19971212
     US 1997-797696      A2     19970131
     WO 1997-US7445      A2     19970501
     WO 1998-US24014     W      19981112
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G   2     THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
RE.CNT  5     THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 7 OF 8  HCAPLUS  COPYRIGHT 2010 ACS on STN
```

TI Immunosuppressants containing heated carbohydrates having β-1,3-glucoside linkage
AB Immunosuppressants contain heat-treated linear carbohydrates having β-1,3-glucoside linkage, e.g. curdlan hydrolyzates, as active ingredients. The action of immunosuppressants is based on suppression of lymphocytes. Curdlan hydrolyzates, prepared by decomposition of curdlan with HCO2H and subsequent heating in H2O at 100° for 10 min, significantly decreased nos. of viable B- and T-lymphocytes in incubation under stimulation with LPS and ConA, resp.
AN 1998:479907 HCAPLUS <<LOGINID::20100910>>
DN 129:104215
OREF 129:21281a,21284a
TI Immunosuppressants containing heated carbohydrates having β-1,3-glucoside linkage
IN Kajikawa, Akihiro; Kameno, Masaki; Murosaki, Shinji; Kusaka, Hiroaki
PA Takeda Chemical Industries, Ltd., Japan; Takeda Shokuhin Kogyo K. K.; Kirin Food-Tech Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 10194976 | A | 19980728 | JP 1997-6524 | 19970117 |
| JP 4091137 | B2 | 20080528 | | |

PRAI JP 1997-6524 19970117
OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L4 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Structure and activity of sulfated alkyl oligosaccharide having potent anti-HIV activity
AB Hydrolysis in dilute HCl/DMSO of curdlan gave mixture of laminari-oligosaccharides, which by column chromatog. with charcoal/EtOH-H2O gave laminaritetraose (I). Biochem. selective anal. by enzyme of curdlan gave laminaripentaose (II). Treatment of pure I with AcOK/Ac2O gave peracylated laminearitetraoside (III) (β/α ratio 3.2-3.8), which with alkyl alcs. by SnCl4 catalyst gave peracetylated alkyl laminaritetraosides, V, VI, VII and VIII in 45, 55, 54 and 28 % yields, resp. Similarly, pure II gave peracetylated laminaripentaoside (IV), which with alkyl alcs. similarly gave peracetylated alkyl laminaripentasoides IX, X, XI, XII and XIII in 50, 54, 47, 55 and 70% yields, resp. Sulfated alkyl laminaritetraosides XIV, XV, XVI and XVII were synthesized by treatment of, V, VI, VII and VIII treated with NaOMe/MeOH, with N-SO3/Pyridine. Similarly, sulfated alkyl laminaripentaosides XVIII, XIX, XX and XXII were synthesized. The anti-HIV activity of XIV-XXII was measured by using curdlan sulfate as reference The anti-HIV activity of XIV-XVII decreased with shortening of alkyl portion under 8 of carbonic number EC50 value of XIV and XV was 24 and 14 μg/mL, resp. EC50 value of XVI and XVII was 3.2 and 3.3 μg/mL, resp., which was significantly lower than that of XVIII-XXII, resp. Structure of laminarioligosaccharides having more than pentasacharides was important for high potent anti-HIV activity. XVIII and XIC having (+)-2-octyl and (-)-2-octyl portion, especially, both showed similar anti-HIV activity. Cytotoxic effect of all compds. tested was low. Usefulness of laminaripentaosides is discussed as anti-HIV active agents.
AN 1996:353110 HCAPLUS <<LOGINID::20100910>>
DN 125:104236
OREF 125:19219a,19222a
TI Structure and activity of sulfated alkyl oligosaccharide having potent anti-HIV activity

```
AU   Katsuraya, Kaname; Uryu, Toshiyuki
CS   Inst. Ind. Sci., Univ. Tokyo, Tokyo, 106, Japan
SO   Seisan Kenkyu (1996), 48(3), 165-8
     CODEN: SEKEAI; ISSN: 0037-105X
PB   Tokyo Daigaku Seisan Gijutsu Kenkyusho
DT   Journal
LA   Japanese


=> s l2/prep or l3/prep
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       5063133 PREP/RL
            10 L2/PREP
                (L2 (L) PREP/RL)
           100 L3
       5063133 PREP/RL
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                (L3 (L) PREP/RL)
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       4834958 AY<2004
       4308922 PRY<2004
L6          18 L5 AND (PY<2004 OR AY<2004 OR PRY<2004)

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For an explanation, enter "HELP DISPLAY".

=> d l6 and l4
L4 IS NOT VALID HERE
For an explanation, enter "HELP DISPLAY".

=> d l6 and l4
L4 IS NOT VALID HERE
For an explanation, enter "HELP DISPLAY".

=> s l6 and l4
L7           3 L6 AND L4

=> d l7 1-3 ti abs bib

L7   ANSWER 1 OF 3  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Therapeutical treatment with oligo-beta- (1,3) -glucans, drugs used in
     said treatment
AB   A therapeutical method comprising administration of a composition comprising an
     amount of oligo-β-(1,3)-glucan and a pharmaceutically acceptable
     carrier, to a human being or to a warm-blood animal suffering from a
     disease selected from the group consisting in a tumor, a cancer, a viral
     disease, a bacterial disease, a fungal disease, a disease of the immune
     system, an auto-immune disease or a disease related to a deficiency of
     immunostimulation, wherein the amount of oligo-β-(1,3)-glucan is
     effective to treat the disease.
AN   2005:259652  HCAPLUS <<LOGINID::20100910>>
DN   142:309889
TI   Therapeutical treatment with oligo-beta- (1,3) -glucans, drugs used in
     said treatment
IN   Yvin, Jean-Claude; Jamois, Frank; Vetvicka, Vaclav
PA   Fr.
SO   U.S. Pat. Appl. Publ., 20 pp.
```

CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 20050065114 | A1 | 20050324 | US 2003-668665 | 20030923 <-- |
| | WO 2005027936 | A2 | 20050331 | WO 2004-EP10995 | 20040916 <-- |
| | WO 2005027936 | A3 | 20050728 | | |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | EP 1663258 | A2 | 20060607 | EP 2004-787077 | 20040916 <-- |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK | | | | |
| PRAI | US 2003-668665 | A | 20030923 <-- | | |
| | WO 2004-EP10995 | W | 20040916 | | |

OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L7 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Oligosaccharides, a process for preparation thereof and pharmaceutical combination containing the same compounds
AB This invention relates to the oligosaccharides with enhancing immune and antitumor activity. The described oligosaccharides have a main chain consisting of 3-14 sugar residues and side chains consisting of 0-4 sugar residues. The sugar residues are either the same or different. The described sugar residues on the main chain are linked through 1→3β or 1→4β linkage. The described side chains are linked with the main chain through 1→6β or 1→6α linkage. The described terminal group is hydroxyl or C1-12 alkoxyl group. This invention also involves the preparation of the described oligosaccharides, in the process 1,2:5,6-di-O-isopropylidene glucose is used as the starting material and the glycosyl acceptor and acylated sugars are used as the glycosyl donors for the preparation of said oligosaccharide. In addition, the pharmaceutical composition of the described oligosaccharides and their use as enhancing immune and antitumor agents, and as health maintaining products are involved.
AN 2001:453081 HCAPLUS <<LOGINID::20100910>>
DN 135:33006
TI Oligosaccharides, a process for preparation thereof and pharmaceutical combination containing the same compounds
IN Kong, Fanzuo; Ning, Jun
PA Research Center for Eco-Environmental Sciences, Academia Sinica, Peop. Rep. China
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA Chinese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2001044263 | A1 | 20010621 | WO 2000-CN224 | 20000807 <-- |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CR, | | | | |

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            ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
            LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,
            SE, SG, SI
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
            CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
    CN 1303857          A     20010718    CN 1999-126224          19991216 <--
    CN 1129600          C     20031203
    CN 1306003          A     20010801    CN 2000-100376          20000119 <--
    CN 1159327          C     20040728
PRAI CN 1999-126224     A     19991216  <--
    CN 2000-100376      A     20000119  <--
OSC.G   3     THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
RE.CNT  4     THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7  ANSWER 3 OF 3  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI  Structure and activity of sulfated alkyl oligosaccharide having potent
    anti-HIV activity
AB  Hydrolysis in dilute HCl/DMSO of curdlan gave mixture of
    laminari-oligosaccharides, which by column chromatog. with
    charcoal/EtOH-H2O gave laminaritetraose (I).  Biochem. selective anal. by
    enzyme of curdlan gave laminaripentaose (II).  Treatment of pure I with
    AcOK/Ac2O gave peracylated laminearitetraoside (III) (β/α ratio
    3.2-3.8), which with alkyl alcs. by SnCl4 catalyst gave peracetylated
    alkyl laminaritetraosides, V, VI, VII and VIII in 45, 55, 54 and 28 %
    yields, resp.  Similarly, pure II gave peracetylated laminaripentaoside
    (IV), which with alkyl alcs. similarly gave peracetylated alkyl
    laminaripentasoides IX, X, XI, XII and XIII in 50, 54, 47, 55 and 70%
    yields, resp.  Sulfated alkyl laminaritetraosides XIV, XV, XVI and XVII
    were synthesized by treatment of, V, VI, VII and VIII treated with
    NaOMe/MeOH, with N-SO3/Pyridine.  Similarly, sulfated alkyl
    laminaripentaosides XVIII, XIX, XX and XXII were synthesized.  The
    anti-HIV activity of XIV-XXII was measured by using curdlan sulfate as
    reference  The anti-HIV activity of XIV-XVII decreased with shortening of alkyl
    portion under 8 of carbonic number  EC50 value of XIV and XV was 24 and 14
    μg/mL, resp.  EC50 value of XVI and XVII was 3.2 and 3.3 μg/mL,
    resp., which was significantly lower than that of XVIII-XXII, resp.
    Structure of laminarioligosaccharides having more than pentasacharides was
    important for high potent anti-HIV activity.  XVIII and XIC having
    (+)-2-octyl and (-)-2-octyl portion, especially, both showed similar anti-HIV
    activity.  Cytotoxic effect of all compds. tested was low.  Usefulness of
    laminaripentaosides is discussed as anti-HIV active agents.
AN  1996:353110  HCAPLUS <<LOGINID::20100910>>
DN  125:104236
OREF 125:19219a,19222a
TI  Structure and activity of sulfated alkyl oligosaccharide having potent
    anti-HIV activity
AU  Katsuraya, Kaname; Uryu, Toshiyuki
CS  Inst. Ind. Sci., Univ. Tokyo, Tokyo, 106, Japan
SO  Seisan Kenkyu (1996), 48(3), 165-8
    CODEN: SEKEAI; ISSN: 0037-105X
PB  Tokyo Daigaku Seisan Gijutsu Kenkyusho
DT  Journal
LA  Japanese


=> d his

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                  EXP LAMINARITETRAOSE/CN
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L2             1 S E6
                  EXP LAMINARIPENTAOSE/CN
L3             1 S E3 OR E7

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L4             8 S L2/THU OR L3/THU
L5            22 S L2/PREP OR L3/PREP
L6            18 S L5 AND (PY<2004 OR AY<2004 OR PRY<2004)
L7             3 S L6 AND L4

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    39.92      67.81

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -9.35      -9.35

 SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 13:35:08 ON 10 SEP 2010

Connecting via Winsock to STN



Welcome to STN International!  Enter x:X

LOGINID:SSPTAEXO1623

PASSWORD:
  * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'HCAPLUS' AT 13:37:37 ON 10 SEP 2010
FILE 'HCAPLUS' ENTERED AT 13:37:37 ON 10 SEP 2010
COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)s

COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                    39.92      67.81

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -9.35      -9.35

=> s l6 not l7
L8          15 L6 NOT L7

=> d l8 1-15 ti abs bib

L8   ANSWER 1 OF 15  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Method for production of oligosaccharide from Laminaria japonica by adding
     the cultured medium of escherichia coli transformed with vector
     plk108s(kfcc-11303) or endo-beta-1,3-glucanase produced therefrom into
     laminarin isolated from laminaria japonica
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AB A method for production of oligosaccharide from Laminaria japonica is provided, thereby rapidly and high efficiently producing oligosaccharide from Laminaria japonica, which oligosaccharide is useful for food and medicine and food industry. The method for production of oligosaccharide from Laminaria japonica comprises the steps of: culturing Escherichia coli transformed with a vector pLK108S(KFCC-11303) in a medium; recovering endo-beta-1,3-glucanase from the supernatant of the cultured medium; extracting dried Laminaria japonica with hot water; adding ethanol into the extract of Laminaria japonica and centrifuging it at 5000 rpm for 20 min; sequentially filtrating the supernatant of the centrifuged culture medium with 0.1-m2 membrane, 100kD membrane and 1kD membrane to obtain the filtered active fraction; subjecting the active fraction to gel filtration to isolate laminarin; and adding the cultured medium of Escherichia coli transformed with a vector pLK108S (KFCC-11303) or endo-beta-1,3-glucanase produced therefrom into the laminarin isolated from Laminaria japonica, wherein the oligosaccharide is laminaribose or laminaripentaose.
AN 2006:823637 HCAPLUS <<LOGINID::20100910>>
DN 145:291286
TI Method for production of oligosaccharide from Laminaria japonica by adding the cultured medium of escherichia coli transformed with vector plk108s(kfcc-11303) or endo-beta-1,3-glucanase produced therefrom into laminarin isolated from laminaria japonica
IN Baek, Geum Ok; Kim, Ki Hoon; Kim, Yea Oon; Lee, Dong Seok
PA Inje University, S. Korea
SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DT Patent
LA Korean
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| KR 2005000443 | A | 20050105 | KR 2003-40923 | 20030624 <-- |
| PRAI KR 2003-40923 | | 20030624 <-- | | |

L8 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Dietary-fiber-degrading enzymes from a human intestinal Clostridium and their application to oligosaccharide production from nonstarchy polysaccharides using immobilized cells
AB The secretion of nonstarchy polysaccharide-degrading enzymes from an anaerobic human intestinal bacterium, Clostridium butyricum-beijerinckii (isolated from human feces), was investigated. Growth of the bacterium was found when laminarin, konjac glucomannan, and pectic acid were added sep. to the culture media as sole carbon source. The corresponding degrading enzymes for these dietary fibers, laminarinase (endo-1,3-β-glucanase), endo-1,4-β-mannanase, endo- and exo-pectate lyases, and pectin methylesterase, were then purified and characterized. These extracellular enzymes, which were secreted by the bacterium in the human large intestine, were considered to contribute to digestion of the ingested dietary fibers to their oligosaccharides, following by short-chain fatty acid fermentation by the bacterium. We have developed cell immobilization techniques of the bacterium on cellulose-foam carriers that are effective for continuous production of the oligosaccharides from the dietary fibers in a fed-batch reactor system. From 9 g of pectic acid, a total of 3.96 g of 4,5-unsatd. digalacturonic acid was produced over 40 h in four 500-mL batch cultures. In the same manner, the corresponding oligosaccharides were obtained from konjac glucomannan and laminarin with average conversion rates of around 30-40%.
AN 2002:589783 HCAPLUS <<LOGINID::20100910>>
DN 137:261951
TI Dietary-fiber-degrading enzymes from a human intestinal Clostridium and their application to oligosaccharide production from nonstarchy

polysaccharides using immobilized cells
AU Nakajima, N.; Ishihara, K.; Matsuura, Y.
CS Department of Nutritional Science, Okayama Prefectural University, Okayama, 719-1197, Japan
SO Applied Microbiology and Biotechnology (2002), 59(2-3), 182-189
CODEN: AMBIDG; ISSN: 0175-7598
PB Springer-Verlag
DT Journal
LA English
OS CASREACT 137:261951
OSC.G 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Alkyllaminarioligosaccharides manufacture with Streptomyces or enzyme
AB Alkyllaminarioligosaccharides (I) are com. manufactured from alkylglucosides and β-1,3-glucan with saccharide transferase of Streptomyces. I are useful as cosmetics and pharmaceuticals. Manufacture of docecyllaminaritetraoside with SGTase of Streptomyces sp. DIC-108 was shown.
AN 1996:590479 HCAPLUS <<LOGINID::20100910>>
DN 125:219771
OREF 125:41107a,41110a
TI Alkyllaminarioligosaccharides manufacture with Streptomyces or enzyme
IN Ebara, Takeshi; Nishibashi, Hideji; Shoji, Tadao
PA Dainippon Ink & Chemicals, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 08196290 | A | 19960806 | JP 1995-10602 | 19950126 <-- |
| PRAI JP 1995-10602 | | 19950126 <-- | | |

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L8 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Manufacture of laminaripentaose from β-1,3-glucosyl compounds with glucanase
AB Laminaripentaose (I) is manufactured by treating β-1,3-glucosyl compds. with β-1,3-glucanase from Streptomyces sp. in presence of metal salts. Purified curdlan was treated with enzyme from S. matensis DIC-108 in acetate buffer containing NaCl at 55° for 20 h to produce .apprx.45% I.
AN 1996:589765 HCAPLUS <<LOGINID::20100910>>
DN 125:219778
OREF 125:41107a,41110a
TI Manufacture of laminaripentaose from β-1,3-glucosyl compounds with glucanase
IN Ebara, Takeshi
PA Dainippon Ink & Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 08191696 | A | 19960730 | JP 1995-4845 | 19950117 <-- |

| | | | | |
|---|---|---|---|---|
| | JP 3706948 | B2 | 20051019 | |
| PRAI | JP 1995-4845 | | 19950117 | <-- |

L8 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Laminaripentaose and its preparation with Streptomyces matensis producing β-1,3-glucanase
AB A method for the preparation of laminaripentaose by cultivating Streptomyces matensis strain DIC-108 in a pH range of 7.apprx.9 at 30.apprx.43° is described. A method for producing the enzyme (β-1,3-glucanase) associated with the biosynthesis of laminaripentaose with S. matensis strain DIC-108 is also shown.
AN 1996:513792 HCAPLUS <<LOGINID::20100910>>
DN 125:140673
OREF 125:26353a,26356a
TI Laminaripentaose and its preparation with Streptomyces matensis producing β-1,3-glucanase
IN Arai, Shigefumi; Ebara, Takeshi; Nishibashi, Hideji
PA Dainippon Ink & Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 08173153 | A | 19960709 | JP 1994-325079 | 19941227 <-- |
| JP 3601618 | B2 | 20041215 | | |
| PRAI JP 1994-325079 | | 19941227 | <-- | |

L8 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Synthesis of sulfated alkyl oligosaccharides with high anti-HIV activity. Dependence on the alkyl group and the oligosaccharide chain
AB Sulfated alkyl laminari-oligosaccharides with potent anti-human immunodeficiency virus (HIV) activities were synthesized. In this study, we intended to synthesize highly anti-HIV active compds. using low mol. weight carbohydrates. To accomplish this aim, a surface-active agent type compound consisting of hydrophilic sulfated oligosaccharide and hydrophobic alkyl group portions was prepared Individual pure laminari-oligosaccharides from laminari-tetraose to -nonaose were used as the starting carbohydrate. Synthesis of peracetyl alkyl laminari-oligosaccharide was carried out with β-peracetylated laminari-oligosaccharides and corresponding alcs. by using stannic tetrachloride as a Lewis acid catalyst. Sulfation was performed by using sulfur trioxide-pyridine complex. Anti-HIV activities were assayed by means of MT-4 cells and HIV-1HTLV-III viruses. All sulfated alkyl laminari-oligosaccharides except for those having short alkyl chains such as Bu group, exhibited potent inhibitory effects on HIV infection. The anti-HIV activity of sulfated dodecyl and sulfated octadecyl laminari-pentaoside through laminari-nonaoside was almost equivalent, although only sulfated octadecyl laminari-pentaoside had a considerably high cytotoxicity. In addition, sulfated perfluoroalkyl laminari-oligosaccharides had highly anti-HIV activities and negligible cytotoxicities.
AN 1996:512618 HCAPLUS <<LOGINID::20100910>>
DN 125:222308
OREF 125:41569a,41572a
TI Synthesis of sulfated alkyl oligosaccharides with high anti-HIV activity. Dependence on the alkyl group and the oligosaccharide chain
AU Katsuraya, Kaname; Inazawa, Kazuhiko; Nakashima, Hideki; Uryu, Toshiyuki
CS Institute of Industrial Science, University of Tokyo, Tokyo, 106, Japan
SO Frontiers in Biomedicine and Biotechnology (1996), 3(Biomedical Functions and Biotechnology of Natural and Artificial Polymers), 195-205

CODEN: FBBIET; ISSN: 1067-1897
PB ATL Press
DT Journal
LA English
OSC.G 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

L8 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Synthesis of Sulfated Alkyl Laminara-Oligosaccharides Having Potent Anti-HIV Activity and the Relationship between Structure and Biological Activities
AB The synthesis of potently anti-HIV-active sulfated alkyl laminara-oligosaccharides composed of glucosidic residues of 5-9 was investigated. The anti-HIV activity and the anticoagulant activity of these sulfated alkyl laminara-oligosaccharides were assessed. The synthesis and separation of resp. laminara-oligosaccharides were accomplished in a route starting from acetolysis and hydrolysis of curdlan followed by HPLC. Alkyl oligosaccharides were synthesized using stannic tetrachloride as a Lewis acid catalyst, and then sulfation was carried out with the sulfur trioxide-pyridine complex after deacetylation. Sulfated dodecyl laminarapentoside through laminaranonoside showed almost the same anti-HIV activity. Although no cytotoxicity was detected on a series of dodecyl compds., low-level cytotoxicity appeared with a series of octadecyl compds. On the other hand, the anticoagulant activity increased as the number of sugar units increased from 5 to 9.
AN 1995:131134 HCAPLUS <<LOGINID::20100910>>
DN 122:265867
OREF 122:48553a,48556a
TI Synthesis of Sulfated Alkyl Laminara-Oligosaccharides Having Potent Anti-HIV Activity and the Relationship between Structure and Biological Activities
AU Katsuraya, Kaname; Shoji, Tadao; Inazawa, Kazuhiko; Nakashima, Hideki; Yamamoto, Naoki; Uryu, Toshiyuki
CS Institute of Industrial Science, University of Tokyo, Tokyo, 106, Japan
SO Macromolecules (1994), 27(23), 6695-9
CODEN: MAMOBX; ISSN: 0024-9297
DT Journal
LA English
OSC.G 32 THERE ARE 32 CAPLUS RECORDS THAT CITE THIS RECORD (32 CITINGS)

L8 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Synthesis of sulfated alkyl malto- and laminara-oligosaccharides with potent inhibitory effects on AIDS virus infection
GI


I

AB A series of sulfated alkyl oligosaccharides, e.g. I (n = 9, 11, 15, 17), including a sulfated dodecyl laminarapentaoside and a sulfated octadecyl

maltohexaoside with potent anti-human immunodeficiency virus (HIV) activity, has been synthesized. An alkyl oligosaccharide in which a long alkyl group is bonded to the reducing end of the oligosaccharide was first synthesized in high yield. Peracetylated oligosaccharides reacted with such aliphatic alcs. as 1-decyl and 1-dodecyl alcs. with Lewis acids as catalysts. As in the glycosylation of the α and β peracetylated glycosides, the β anomer reacted exclusively, the acetylation was carried out with a sodium acetate-acetic anhydride at high temps. to maximize the proportion of the β anomer.

AN 1995:18239 HCAPLUS <<LOGINID::20100910>>
DN 123:56417
OREF 123:10179a,10182a
TI Synthesis of sulfated alkyl malto- and laminara-oligosaccharides with potent inhibitory effects on AIDS virus infection
AU Katsuraya, Kaname; Ikushima, Naoya; Takahashi, Nahoko; Shoji, Tadao; Nakashima, Hideki; Yamamoto, Naoki; Yoshida, Takashi; Uryu, Toshiyuki
CS Institute of Industrial Science, University of Tokyo, 7-22-1 Roppongi, Minato-ku, Tokyo, 106, Japan
SO Carbohydrate Research (1994), 260(1), 51-61
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English
OSC.G 23 THERE ARE 23 CAPLUS RECORDS THAT CITE THIS RECORD (23 CITINGS)

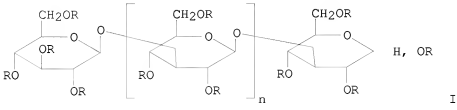
L8 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Oligosaccharide aromatic glycoside sulfate
AB Sulfated aryl glycosides of glucose and galactose oligosaccharides were prepared Thus, β-D-galactopyranosyl-(1→4)-[β-D-galactopyranosyl-(1→4)]2-β-D-glucopyranose peracetate was glycosidated with 4-Me3CCH2CMe2C6H4OH, deacetylated, and sulfated to a degree of sulfation of 87%. The resulting sulfated glycoside had an EC50 against HIV in MT-4 cells of 0.04 μg/mL and a selectivity index relative to cytotoxicity of >25000.
AN 1993:581150 HCAPLUS <<LOGINID::20100910>>
DN 119:181150
OREF 119:32407a,32410a
TI Oligosaccharide aromatic glycoside sulfate
IN Tadao, Shoji; Takahashi, Nahoko; Ikushima, Naoya; Uryu, Toshiyuki; Yoshida, Takashi; Yamamoto, Naoki; Nakashima, Hideki; Katsuraya, Kaname; Adachi, Koichiro; Kataoka, Fusayo
PA Dainippon Ink Chemical Industry Co., Japan
SO Eur. Pat. Appl., 62 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 532026 | A2 | 19930317 | EP 1992-115574 | 19920911 <-- |
| | EP 532026 | A3 | 19931006 | | |
| | R: CH, DE, FR, GB, IT, LI | | | | |
| | JP 05279381 | A | 19931026 | JP 1992-240558 | 19920909 <-- |
| | CA 2077993 | A1 | 19930314 | CA 1992-2077993 | 19920910 <-- |
| | US 5498602 | A | 19960312 | US 1992-944077 | 19920911 <-- |
| PRAI | JP 1991-234728 | A | 19910913 | <-- | |
| | JP 1991-267611 | A | 19911016 | <-- | |
| | JP 1992-19972 | A | 19920205 | <-- | |

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L8 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN

TI Preparation of antiviral sulfated oligosaccharides
GI




I

AB Oligosaccharides I (R = H, SO3M; ≥1 R = SO3M; M = alkali metal, NH4; n = 0-8), useful as virucides (no data), are prepared by sulfation of laminarioligosaccharides by sulfation agents. Curdlan (50 g) was treated with β-1,3-glucanase in acetate buffer at 45° for 24 h to give 23.8 g laminaripentaose, which (0.5 g) was sulfated with piperidine-N-sulfuric acid in DMSO to give 0.81 g sulfated laminaripentaose.
AN 1992:6919 HCAPLUS <<LOGINID::20100910>>
DN 116:6919
OREF 116:1367a,1370a
TI Preparation of antiviral sulfated oligosaccharides
IN Uryu, Toshiyuki; Yoshida, Takashi; Nishibashi, Hideji
PA Dainippon Ink and Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 03145496 | A | 19910620 | JP 1989-282783 | 19891030 <-- |
| | JP 2956090 | B2 | 19991004 | | |
| PRAI | JP 1989-282783 | | 19891030 | <-- | |

OS MARPAT 116:6919

L8 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Transglycosylation and multiple attack of endo-(1→3)-β-D-glucanase L-IV from Spisula sachalinensis: a new approach to the evaluation of the degree of multiple attack on polysaccharides
AB The marked capability for transglycosylation by endo-(1→3)-β-D-glucanase L-IV from S. sachalinensis to glycerol, D-glucose, Me α- and β-D-glucopyranoside, and Me cellobioside as acceptors was employed to study the multiple attack of the enzyme on laminarin. The enzyme hydrolyzed, .apprx.4 glycosidic bonds during enzyme-substrate interaction. The relative transfer consts. for each acceptor were calculated
AN 1990:587056 HCAPLUS <<LOGINID::20100910>>
DN 113:187056
OREF 113:31559a,31562a
TI Transglycosylation and multiple attack of endo-(1→3)-β-D-glucanase L-IV from Spisula sachalinensis: a new approach to the evaluation of the degree of multiple attack on polysaccharides

AU Bezukladnikov, P. W.; Elyakova, L. A.
CS Pac. Inst. Bioorg. Chem., Vladivostok, 690022, USSR
SO Carbohydrate Research (1990), 203(1), 119-27
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English
OSC.G 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

L8 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Laminarioligosaccharides as food preservatives and their preparation
AB Food preservatives contain laminarioligosaccharides prepared by enzymic or acidic hydrolysis of β-1,3-glycosylsugars. The preservatives may contain amino acids. Laminarioligosaccharides do not change flavor of foods. Curdlan was enzymically hydrolyzed in a citrate buffer at 45° for 12 h to give white powder containing laminaribiose 27.1, laminaritriose 50.3, laminaritetraose 12.4, and other laminarioligosaccharide 10.2%. Bread containing the laminarioligosaccharides was able to be preserved for longer periord. Antiseptic effect of the laminarioligossaccharides is described.
AN 1990:496383 HCAPLUS <<LOGINID::20100910>>
DN 113:96383
OREF 113:16267a,16270a
TI Laminarioligosaccharides as food preservatives and their preparation
IN Nishibashi, Hideji; Katabami, Tadashi; Yamada, Masaharu
PA Dainippon Ink and Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 02109964 | A | 19900423 | JP 1988-263384 | 19881019 <-- |
| JP 2699470 | B2 | 19980119 | | |
| PRAI JP 1988-263384 | | 19881019 <-- | | |

L8 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI A process for epimerization of sugars
AB A process for epimerization of sugars involves adding the sugar to a solution of a salt of a metal selected from Ni, Co, Ca, Sr, La, Ce, Pr, Nd, Y, or In, and polyamine R1R2[NR5(CH2)m]nNR3R4 [m = 2, 3; n = 1-9; R1-R5 = H, C1-3 alkyl], or a polyether H(OCHR6CHR7)pOH (p = 2-400; R6, R7 = C1-3 alkyl) and heating the mixture CaCl2.2H2O 0.5, 2,5,8-trimethyl-2,5,8-triazanonane (I) 0.5, and D-glucose 0.5 mmol were dissolved in 8 mL MeOH and the mixture was heated at .apprx.65° under reflux, cooled, diluted with 15 mL MeOH, and adjusted to pH 4 with 1N aqueous H2SO4. After 1 h, the mixture was passed through ion exchanger columns of Dowex 50W-X2 and MSA-1, removing CaCl2 and I, to give 83% of a 36:64 mixture of D-glucose and D-mannose.
AN 1989:173690 HCAPLUS <<LOGINID::20100910>>
DN 110:173690
OREF 110:28833a,28836a
TI A process for epimerization of sugars
IN Yoshikawa, Sadao; Matsumura, Shuichi; Yano, Shigenobu; Takizawa, Satoshi; Komiyama, Shinji
PA DIC Hercules, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 63115893 | A | 19880520 | JP 1986-258311 | 19861031 <-- |
| PRAI | JP 1986-258311 | | 19861031 | <-- | |

L8 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Laminaridigosaccharides as bifidobacterium growth promoters
AB Laminarioligosaccharides are effective in enhancing the growth of the beneficial microorganisms Bifidobacterium. Curd run 50 g suspended in 0.01M phosphate buffer, pH 6.0, 1L was mixed with end type β-1,3-glucanase (200 units) prepared from Streptomyces DIC-108. The mixture was incubated at 45° for 2 h to give laminarioligosaccharide IV that markedly enhanced the growth on nutrient agar plates of Bifidobacterium, somewhat Lactobacillus casei and Streptococcus faecalis, but not Escherichia coli.
AN 1988:109473 HCAPLUS <<LOGINID::20100910>>
DN 108:109473
OREF 108:17875a,17878a
TI Laminaridigosaccharides as bifidobacterium growth promoters
IN Nishibashi, Hideji; Katabami, Tadashi; Matsubayashi, Tadao
PA Dainippon Ink and Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 62163685 | A | 19870720 | JP 1986-4234 | 19860114 <-- |
| PRAI | JP 1986-4234 | | 19860114 | <-- | |

L8 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Laminaripentaose
AB Laminaripentaose (I) is produced by reacting β-1,3-glucanase (II) from Streptomyces with β-1,3-glycosyl polysaccharide or its partial hydrolyzate. Thus, 5 mL solution containing 2.2 units II prepared from a culture broth of S. matensis DIC-108 (FERM-P 6593) was added to 0.25 g curdlan (n = 550) and the mixture was incubated at 45° for 24 h to yield 188 mg I.
AN 1986:532159 HCAPLUS <<LOGINID::20100910>>
DN 105:132159
OREF 105:21313a,21316a
TI Laminaripentaose
IN Nishibashi, Hideji; Katabami, Tadashi; Oyama, Mikio; Matsubayashi, Tadao
PA Dainippon Ink and Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 61092589 | A | 19860510 | JP 1984-212716 | 19841012 <-- |
| | JP 04037719 | B | 19920622 | | |
| PRAI | JP 1984-212716 | | 19841012 | <-- | |